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PULP & PAPER

July 1989

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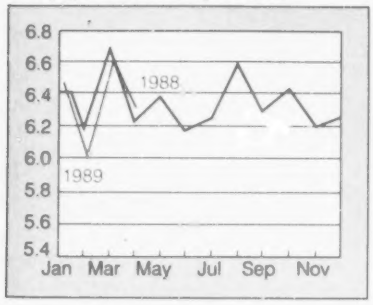
ABP

BPA

U.S. paper and board production



U.S. production of paper and paperboard totaled 6.3 million tons in April, down 0.3% from the same month last year, according to the American Paper Institute. The seasonally adjusted annual rate through the first four months was 77.1 million tpy, the same rate as in early 1988 and 0.7% above total 1988 production. Paperboard production through April was up 0.4% on a seasonally adjusted basis, while paper was down 0.3%.

Among major grades, uncoated groundwood production jumped 9.4% on the strength of higher shipments to commercial printers, API reported. Uncoated free-sheet was flat and coated paper was down 5.0%, however, so overall printing and writing paper production was off 1.0% through April. Containerboard production for the domestic market climbed 0.2%, but production of boxboard for domestic use dropped 3.3%. Export markets for linerboard remained strong despite the rising dollar, with overseas shipments through the first quarter up 8.1%.

Canadian newsprint shipments totaled 785,000 metric tons in April, 0.5% less than a year earlier. Operating rates dropped sharply to 94%, as more mills took downtime. Pulp shipments dipped 1.3% for the month, with mills operating at 90%. ■

	Latest month (000 short tons)		% change from year ago	Annualized year-to-date (000 short tons)	% change from year ago
PAPER & PAPERBOARD PRODUCTION[1]					
Newsprint	Apr.	495	-0.4	5,890	-1.1
Uncoated groundwood (s)	Apr.	145	14.2	1,715	9.4
Coated paper (s)	Apr.	574	-5.7	7,093	-5.0
Uncoated free-sheet (s)	Apr.	954	0.7	11,444	0.2
Other printing/writing	Apr.	128	-4.5	1,525	-1.2
Total packaging and other paper (s)	Apr.	386	-11.9	5,091	4.6
Tissue	Apr.	465	4.5	5,617	3.4
Total paper	**Apr.**	**3,147**	**-1.6**	**38,375**	**-0.9**
Unbleached kraft paperboard	Apr.	1,587	3.2	19,252	-0.2
Semichemical medium	Apr.	468	4.7	5,731	2.8
Bleached paperboard	Apr.	356	-5.6	4,406	-3.1
Recycled paperboard	Apr.	739	-2.0	8,768	-2.3
Total paperboard	**Apr.**	**3,148**	**1.0**	**38,155**	**-0.4**
Total U.S. paper and paperboard output	**Apr.**	**6,295**	**-0.3**	**76,530**	**-0.6**
PULP, WASTEPAPER & FIBER[2]					
Total U.S. woodpulp production	Mar.	5,306	1.6	62,374	1.1
Market pulp production	Mar.	770	5.8	8,935	3.7
Wastepaper consumption at paper/board mills	Mar.	1,613	-2.8	18,792	-1.0
Pulpwood consumption (cords)	Mar.	8,169	-1.0	97,456	0.6
CONVERTED PRODUCTS STATISTICS[3]					
Corrugated box shipments (billion ft²)	Apr.	26.367	0.9	103.850[6]	0.6
Containerboard inventories at U.S. box plants and mills	Apr. 1	2,568	2.2		
INTERNATIONAL TRADE[2]					
U.S. paper imports (including products)	Mar.	1,128	-3.8	12,767	-0.8
Imports of Canadian newsprint	Mar.	707	-9.9	7,850[6]	-9.5
U.S. paper exports (including products)	Mar.	606	12.8	6,273	13.3
Exports of unbleached kraft linerboard	Mar.	231	4.1	2,346	8.1
Exports of woodpulp	Mar.	623	26.9	6,347	19.7
Norscan pulp inventories[4]	Apr. 30	804	-2.1		
Norscan pulp operating rates[4]	Apr.	96%	97%	98%	99%
CANADIAN STATISTICS[5] *(reported in metric tons)*					
Total newsprint shipments	Apr.	785	-0.5	3,092[6]	-2.4
Operating rates	Apr.	94%	99%	96%	100%
Inventories held by U.S. consumers	Apr. 30	1,334	-12.2		
Other paper/board shipments	Apr.	543	-4.7	2,193	-1.3
Woodpulp shipments (export only)	Apr.	620	-1.3	2,636	0.2
Operating rates	Apr.	90%	93%	94%	96%

1. American Paper Institute. 2. API, Bureau of Census, American Pulpwood Assn. 3. Fibre Box Assn., Paperboard Packaging Council. 4. North American/Scandinavian paper-grade market pulp. 5. Canadian Pulp & Paper Assn. 6. Not annualized. (s) = Shipments.

Bleached paperboard: Most producers are sold out as prices climb to record levels

Grade structure: Solid bleached sulfate (SBS) is used primarily for folding carton and milk carton packaging and is produced from a furnish containing not less than 80% virgin bleached woodpulp. Other uses include cup and plate stock, nested food containers, and linerboard. Calipers range from 10 to 28 pt. in low, medium, and high density, and basis weights vary from 120 to 300 lb/3,000 ft². Most SBS produced is either clay- or polyethylene-coated.

Markets: Market demand for bleached paperboard grades, as measured by their 1989 capacity share, is folding boxboard, 48.8%; milk carton and food service, 43.9%; linerboard, 3.5%; and other packaging, 3.8%.

Production/capacity: Production in 1988 increased 1.4% to 4.483 million tons, which was a record production level despite widespread maintenance shutdowns early in the year. Operating rates improved to 95.1%, slightly higher than the 94.5% level in 1987. Exports accounted for 628,000 tons, or about 14% of production.

Among the major end uses, production of folding carton stock increased just 1.2%, milk carton stock decreased 2.6%, food service products increased 3.1%, and other packaging uses increased 15.7%.

Capacity increases have averaged only 1.1% annually during the past ten years, so the bleached board industry is capacity constrained at present. Producers have dedicated all available capacity to bleached board production and have stopped producing bleached pulp on their paper machines, according to industry reports. Still, demand exceeds supply. Some long-term relief is in sight by 1992, when Federal Paper Board Co. and Westvaco Corp. plan to start up new machines, which will add over 500,000 annual tons of capacity.

In the short term, International Paper Co., Potlatch Corp., Georgia-Pacific Corp., Temple-Eastex Corp., and Federal will upgrade existing machines to add about 300,000 annual tons of capacity by 1991. In Canada, Tembec Inc. will start up a new 154,000-tpy multi-ply bleached paperboard machine at the end of this year, and as much as half of this machine's output will be sold in the U.S. U.S. industry capacity should reach 5 million tons in 1991.

Outlook: Bleached paperboard consumption is expected to increase this year to 4.511 million tons, and operating rates will exceed 95%. Supply has been tight in the first half of the year, and shortages will continue through the end of the year because demand for SBS packaging exceeds supply.

Folding carton demand will remain strong through the end of the year. Demand for paperboard liquid packaging will continue growing in domestic and export markets as the consumption of fresh milk and juice increases worldwide. The small decline in milk carton production last year resulted from several producers taking shutdowns, rather than a drop in demand. The increasing use of milk cartons in packaging nonfood items will also fuel demand for these grades.

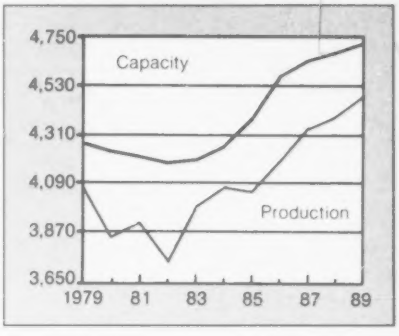
The demand for disposable bleached paperboard food service products should remain firm this year. Environmental concerns about plastic disposable packaging have helped disposable paper products, such as cups, plates, trays, and food containers.

Prices: Producers raised prices by $50/ton for clay-coated folding boxboard grades on Jan. 1, increasing the price of 15-pt board to between $780 and $790/ton. Prices of polyethylene-coated milk carton stock and other specialty packaging grades rose at the beginning of the year to levels of $925 to $1,025/ton. Prices of bleached printing bristols also increased about $50/ton to approximately $980/ton for 10-pt bristol grades and $1,040/ton for 7-pt grades.

Several major SBS producers have announced another $50/ton price hike for either July or August. It is likely that producers will successfully implement this price increase because demand is strong and prices are firm.

Historical prices for fully bleached, clay-coated 15-pt folding carton boxboard (rolls, $/short ton, year-end prices): 1980, $550; 1981, $625; 1982, $590/625; 1983, $590/625; 1984, $590/665; 1985, $500/590; 1986, $580/590; 1987, $635; 1988, $730.

SUPPLY/DEMAND (000 tons)



FORECAST (000 tons)

	1987	1988	1989e
Production	4,420	4,483	4,511
Capacity	4,679	4,715	4,735
Utilization rate	94.5	95.1	95.3
Imports	7	8	20
Exports	619	628	645
Apparent U.S. consumption	3,808	3,863	3,886
lb/capita	31.3	31.5	31.6
GNP ratio[1]	1.00	1.01	1.00

e = Estimate
1. 000 tons/billion $ real GNP

TOP U.S. PRODUCERS (000 tpy)

	Annual capacity	Market share (%)
1. International Paper	935	19.7
2. Federal Paper	631	13.3
3. Westvaco	600	12.7
4. Potlatch	554	11.7
5. Georgia-Pacific[1]	360	7.6
6. Temple-Eastex	357	7.5
7. Champion	247	5.2
8. James River	235	4.9
9. Gulf States	230	4.8
10. Weyerhaeuser	210	4.4

Market share of top five companies:
65.0%

Market share of top ten companies:
91.8%

Total U.S. capacity (1989):
4.735 million short tons

1. Acquired Brunswick Pulp & Paper Co. in 1988.

LINERBOARD

U.S. liner producers begin admitting defeat

U.S. linerboard producers have begun to admit defeat in their six-month struggle to raise prices by $30/ton to the $440 level. Great Northern Nekoosa Corp.'s price for June will be $410 "because that's where the market says the price is," said a company spokesman.

A Union Camp Corp. executive recently told analysts that the increase was dead, but the company might try again in the fall if market conditions are strong enough. The first company to roll back the increase was said to be Weyerhaeuser Paper Co., which in late May told customers that its June price would be $410 in both the East and West.

Companies such as Stone Container Corp. and International Paper Co., however, say they are still at the $440 list price, although IP admits to meeting "competitive situations." A marketing manager with Gaylord Container Corp. said that the company's price is still $440 in both the East and West. Most companies have issued rebates to customers who did pay the price increase in April and May, and as one observer commented, "For all practical purposes, the price increase is dead."

Companies maintaining the $440 list price appear to be trying to help support customers who in some cases were able to raise box prices. Some hope exists that the industry may still be able to get the $440 price in the West, where wood costs this year are expected to soar by more than 50%. Nevertheless, it is uncertain whether or not a $30/ton differential on the West can be sustained since mills further east would be tempted to ship board into the region if freight rates were favorable.

Industry operating conditions remain strong, with unbleached kraft board mills running at 99% in April and averaging close to 96% in the first quarter of 1989. Inventories of containerboard at box plants have generally remained stable and on May 1 stood at 2.42 million tons, equal to 4.8 weeks of supply. Box shipments runningthrough April have been 0.6% ahead of last year (or 1.8% adjusted for one less working day this year).

Why did the increase fail? As Jerry H. Ballengee, executive vice president of Union Camp, told analysts recently, "All the fundamentals were there: high operating rates, lower linerboard inventory levels, and strong box demand." Reasons for the failure were cited by industry observers to *Pulp & Paper Week*:

- Strong resistance to the box price increase from end users who have seen their prices for corrugated boxes rise sharply over the last three years. Lack of movement in box prices has caused resistance to the linerboard increase from independent converters. (The increase to $440 would have meant that prices had jumped 76% from their $250 level in early 1986; if calculated from the last peak of $350/ton in 1984, the rate of increase averages out to about 4%/ year.)
- Box shipments are up nationally, but most of the strength up to April has been in the southeast (+5.1%) and south central (+0.6%) regions. The northeast (-1.1%) and east central (-1.6%) areas, both of which have the largest concentration of independent converters, showed declines.
- A high rate of underlying industry capacity growth due mainly to a large number of incremental expansion projects. U.S. linerboard capacity is expected to grow about 3% this year and will accelerate to more than 4%/year in 1990-91. With supply outpacing demand, operating rates have begun to decline.
- The strengthening of the dollar this year, which could begin to have an impact on U.S. linerboard exports. A much higher dollar and its impact on exports was the major cause of the price collapse in 1985. Through the first quarter, however, exports have held up reasonably well, up 13% to 664,000 tons, according to U.S. Dept. of Commerce statistics.

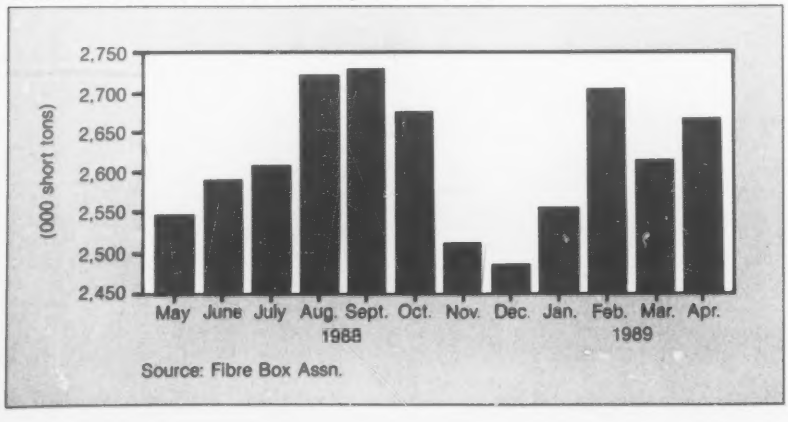
The surge in the dollar and collapse of the domestic price increase have probably killed chances for an export linerboard price increase in Europe. Existing U.S. linerboard price levels in Europe may come under more pressure unless Nordic producers raise European currency prices July 1. Meanwhile, the recent unrest in People's Rep. China could reduce second-half U.S. shipments to Asia. ■

Region	Shipments (billions ft²)	% change from first four months of 1988
Northeast	18.271	-1.1
Southeast	20.349	5.1
East central	14.944	-1.6
North central	12.709	0.2
South central	20.641	0.6
West	16.936	-0.7
Total U.S.	103.850	0.6

*Not adjusted for one less day this year.
Source: Fibre Box Assn.

U.S. corrugated box shipments through April 1989.

Containerboard inventories at U.S. box plants and mills.



Source: Fibre Box Assn.

PRINTING/WRITING PAPER

Boise studying coated machine; delays costly

Boise Cascade Corp. is studying the future addition of a new "world-scale" coated groundwood paper machine as part of the modernization of its Rumford, Maine, mill, according to Steve Larson, vice president-coated paper division. The machine would probably be in excess of 320 in., make No. 4 groundwood, and cost more than $400 million. It most likely would not be installed before the end of 1991.

The company already is spending $64 million for the rebuild of Nos. R-10 and 15 coated machines. Upgrading will add about 20,000 tpy of Nos. 4 and 5 coated groundwood on No. R-15 and 26,000 tpy of Nos. 3 and 4 coated free-sheet on No. 10. A new headbox is due to be installed on R-15 this summer.

Rumford is also getting a $194-million cogeneration project to stabilize energy costs through use of bark and coal rather than 636,000 barrels a year of purchased fuel oil. Expansion is also under way at the pulp mill. Boise will add 76,000 tpy of kraft pulp for $74 million. The mill sells 40,000 to 60,000 tpy of market pulp. This pulp would support the new machine.

Boise said the new machine, if installed, probably would produce No. 4 coated groundwood because the type of pulps produced there lend themselves to that grade.

Labor problems are costly. Meanwhile, labor-related construction delays on the new uncoated free-sheet machine at International Falls, Minn., are costing the company about $2.5 million a week since construction stopped May 1, said Bob Anderson, public affairs manager.

Building construction for the new alkaline project at International Falls has been delayed due to management labor disputes. Meetings are being conducted to work out problems that the company said could scuttle the $535-million project.

The company will rescind imposed labor agreements for five construction unions. Benefits for those unions will be restored to the 1984 level, Anderson said. However, the National Labor Relations Board said management and labor had reached "a proper impasse" for contracts with the three production unions. ■

Major North American new coated paper expansions.

Company	Location	Capacity (000 tpy)	Startup date
Blandin Paper Co.	Grand Rapids, Minn.	220 CGW	1989
Champion Papers	Bucksport, Maine	33 CGW	1989
Consolidated Papers Inc.	Stevens Pt., Wis.	60 CGW*	1989
International Paper Co.	Corinth, N.Y.	100 CF	1989
Champion Papers	Sartell, Minn.	—CGW	1989
Repap Enterprises Inc.	Newcastle, N.B.	200-260 CGW/CF	1989
Fraser Paper Ltd.	Madawaska, Maine	—CGW	1990
Westvaco Corp.	Wickliffe, Ky.	100 CF	1990
Champion Papers	Quinnesec, Mich.	265 CF*	1990
Scott Paper Co.	Skowhegan, Maine	215 CF*	1990
Scott Paper Co.	Muskegon, Mich.	30 CF	1990
Proposed			
Blandin Paper Co.	Grand Rapids, Minn.	250 CGW	n.a.
Boise Cascade Corp.	Rumford, Maine	—CGW*	1991
Bowater Southern	Calhoun, Tenn.	250 CGW*	n.a.
Fraser Paper Ltd.	Madawaska, Maine	—CGW*	n.a.
GNN/MD Papier	Millinocket, Maine	—CGW*	n.a.
James River Corp.	St. Francisville, La.	—CGW*	n.a.
Mead Corp.	Escanaba, Mich.	—CGW*	n.a.
Pentair Inc.	Niagara, Wis.	92 CGW	n.a.
International Paper Co.	n.a.	—CF	n.a.
Repap Enterprises Inc.	The Pas, Man.	—CF	n.a.

*New machines
CGW=coated groundwood; CF=coated free-sheet.

Source: *Pulp & Paper Week.*

James River, Bowater study groundwood machines

Both James River Corp. and Bowater Inc. are studying the addition of new coated groundwood paper machines, the companies reported. James River may add a new machine at its coated publication paper mill in St. Francisville, La. Bowater is also looking at a new machine for its Calhoun, Tenn., mill.

James River's St. Francisville mill produces about 230,000 tpy of coated groundwood paper used primarily in magazines, catalogs, and direct mail. Rust International, Portland, Ore., is the consulting engineer for the James River study. The current building at St. Francisville would be extended to accommodate the new machine.

Calhoun currently produces about 790,000 metric tpy of newsprint and is building a 900-tpd bleached kraft pulp mill to replace the 700-tpd semi-bleached kraft mill. Bowater's Catawba, S.C., mill manufactures about 340,000 tpy of coated mechanical grades. The study was announced by Anthony P. Gammie, chairman and CEO.

Gammie also said that a replacement bleached kraft pulp mill at Calhoun and a new thermomechanical pulp mill in Nova Scotia are scheduled to be online before the year's end. Bowater is studying the costs involved in recycling newspapers for new newsprint production. Gammie said Bowater hopes to announce plans for a newsprint recycling facility this year.

More coated machines. Bowater and James River are not alone in considering new coated groundwood capacity. Also under study is a joint venture between Great Northern Nekoosa Corp. and MD Papier of Fed. Rep. Germany near the Millinocket, Maine, groundwood specialties mill (see following story). Fraser Paper Co. also has coated groundwood paper machines under study.

Although no announcement has been made, Consolidated Papers Inc. is also reported to have at least one new machine in the early study stage. Repap Enterprises Inc. recently indicated plans to install as many as five paper machines over the next decade at its newly acquired Manitoba mill and is considering the possibility of other sites.

• James River Corp. plans to spend

TISSUE

Fort Howard puts cup business up for sale

Fort Howard Corp. is seeking a buyer for its cup operations, which had sales that amounted to $925 million last year. However, the sale does not involve the company's tissue operations, which include mills located in Wisconsin, Oklahoma, Georgia, and the U.K.

Fort Howard Cup Corp. is presently the largest producer of disposable paper and plastic food-service products in North America. It commands an estimated 28% of the U.S. market in comparison to James River Corp.'s 18% stake.

Fort Howard's cup business consists of 15 plants in North America and facilities in Hong Kong, the U.K., and the Netherlands. It provides employment for approximately 9,400 people worldwide, 8,300 of whom are employed in the U.S. In 1987, the company's disposable food service products (including napkins) accounted for 63% of the $1.75 billion in sales.

Fort Howard said it will use the proceeds of the sale to "free up cash for debt reduction and capital investment in its tissue business." Analysts have been wondering how long Fort Howard would hold on to its cup operations, which were responsible for the company's lower earnings in early 1987, in the face of the large debt the company incurred during its leveraged buyout that took place last summer. ■

Mosinee to buy P&G's Cheboygan tissue mill

Mosinee Paper Corp. announced that it has agreed to buy Procter & Gamble Co.'s two-machine tissue mill in Cheboygan, Mich., for an undisclosed amount.

The mill is small and reportedly has capacity of under 100 tpd, although Mosinee said it will make "significant capital expenditures" to convert the plant and equipment to be ready for its future needs. The purchase will enable Mosinee to fully integrate its Bay West towel and tissue converting operation in Green Bay, Wis.

Mosinee said it plans to install deinking facilities at the Cheboygan mill. A spokesman for Mosinee said that the company is also planning to move its converting lines from its Bay West subsidiary in Green Bay, Wis., to Cheboygan.

The project hinges on many things, including getting land for a wastewater treatment plant, permits from the state of Michigan, a contract with the United Paperworkers International Union, and a tax abatement under Michigan's Industrial Rehabilitation Act. The initial capacity of the two-machine mill will be 60,000 tpy. The spokesman said the company plans to rebuild the tissue machines and may expand its product line. ■

Wisconsin Tissue breaks ground for tissue machine

Wisconsin Tissue Mills, a subsidiary of Chesapeake Corp., has broken ground for its new 80,000-tpy tissue machine at its mill in Menasha, Wis. WTM president Charles Cianciola said the 100%-recycled-tissue machine will start up in July or August of 1990. He said the mill has received sufficient approval from regulatory authorities to break ground. WTM plans to use mainly coated book stock for furnish. The converting operations of the mill are already functioning, including an automatic storage and retrieval system that was supplied by Eaton Kenway. The system started up about a month ago.

• **Chesapeake Corp.** said it has formed Chesapeake Consumer Products Co., a new wholly owned subsidiary. Separately, Chesapeake said it has acquired the assets of Finess USA Inc., a wholly owned subsidiary of Swedish Match Holdings Inc. The terms were not disclosed. Finess markets tabletop tissue products. The company reports that the new unit will combine the businesses of Finess USA and Wisconsin Tissue's consumer products division and focus on tabletop tissue as well as specialty paper products. ■

ENVIRONMENT

British Columbian mills will install secondary treatment

British Columbia's Environment Minister Bruce Strachan has announced that the 17 pulp mills in the province that use the chlorine bleaching process will be required to spend a combined C$800 million by 1994 to eliminate the production of toxic chemicals. He said the mills will have to install secondary wastewater treatment plants by Dec. 31, 1991. Currently, the coastal mills discharge effluent directly into the Pacific Ocean.

The $800 million works out to about $47 million per mill. This is in addition to the $10 million that the Pulp & Paper Research Institute of Canada estimated it would cost a mill to install additional chlorine-dioxide generating equipment.

Strachan also said that the pulp mills must limit their discharges of chlorinated organic compounds, including dioxins and furans, to 1.5 kg/metric ton of pulp by 1994. This is the same level that mills in Sweden will have to meet by 1990. British Columbia is apparently not going to require the mills to install oxygen delignification systems, which the province of Alberta is requiring.

Since the announcement, Fletcher Challenge Canada Ltd., Howe Sound Pulp & Paper Ltd., Western Pulp Ltd. Partnership, Canadian Pacific Forest Products Ltd., and Canfor Inc. have all slated multimillion spending programs to enable their pulp mills in the province to meet the new government regulations. ■

CAPACITY

Canadian capacity increases greatest in printing, CTMP

Capacity increases over the next three years will be most significant in the coated groundwood, uncoated free-sheet, and market mechanical pulp sectors of the industry, according to the Canadian Pulp & Paper Assn.'s annual capacity survey.

Total paper and board capacity in Canada reached 17.7 million metric tons in 1988 and is expected to grow by 5.9% annually during 1988-91, reaching 21.0 million tons. At the same time, pulp capacity of 25.0 mil-

lion tons in 1988 will rise 4.3% annually to 28.4 million tons. Of this, market pulp capacity of 8.4 million tons will increase at the annual rate of 4.0% to 9.5 million tons.

Surge in printing/writing. Printing writing capacity in Canada will be boosted by 41.3% to 4.26 million tons in 1991. The biggest jump here will occur in coated groundwood grades, rising by 60.9% to 555,000 tons, primarily due to the startup of one machine at Repap Enterprises Inc.'s Newcastle, N.B., mill.

Uncoated free-sheet capacity will increase by 47.6% to 1.54 million tons due to four machine startups. Domtar Inc. brought a second new machine onstream this past spring at the Windsor, Que., mill, where the first new machine came online in 1987. Also in the second quarter, Canadian Pacific Forest Products Ltd. started up its new paper machine at Dryden, Ont.

A new 1989 coating facility at Island Paper Mills Co.'s New Westminster, B.C., mill is responsible for much of Canada's projected 38.5% jump in coated free-sheet capacity to 180,000 tons by 1991. Uncoated groundwood capacity is expected to grow by 32.6% to 1.982 million tons at that time due to a new supercalendered paper machine at St. Marys Paper Inc.'s Sault Ste. Marie, Ont., mill, plus conversions from newsprint and kraft paper at other mills, CPPA said.

Three new machines will raise sanitary paper capacity by 23.3% to 613,000 tons in 1991.

Eight new newsprint machines. Newsprint capacity will expand substantially with the addition of eight new newsprint machines, according to CPPA (this also includes Consolidated Bathurst Inc.'s new machine at Grand'Mère, Que., which is not expected to make any commodity-type newsprint). Including the machine at Grand'Mère, CPPA projects a 14.7% jump in newsprint capacity to 11.57 million tons in 1991.

Capacity to produce containerboard will grow by 11.6% to 2.28 million tons by 1991. This is primarily due to the new corrugating medium machine at Consolidated Bathurst's Bathurst, N.B., mill late last year, plus an increase in kraft linerboard capacity at Eurocan Pulp & Paper Co.'s Kitimat, B.C., mill this year.

A healthy 27.0% jump in capacity is expected in the boxboard sector. Much of the growth in the recycled grades is attributed to Cascades' expansion at Jonquière, Que. Tembec Inc.'s new machine slated to start up late this year at Temiscaming, Que., contributed much of the projected 241.4%, or 140,000-ton, jump in solid bleached paperboard capacity.

Kraft paper capacity is expected to decline by 3.8% to 539,000 tons in 1991 due to machine conversions to printing paper. Building board capacity will increase by 7.7% to 760,000 tons during this time.

CTMP leads pulp expansion. Mechanical pulp capacity growth will represent two-thirds of the increase in total Canadian pulping capacity during 1988-91, according to CPPA's survey. Four new market chemi-thermomechanical pulp (CTMP) lines that came onstream in 1988 are included as well as the projected 1990-91 startup of Donohue-Matane Inc.'s greenfield CTMP mill in Matane, Que. Stone groundwood pulp capacity is projected to decline 10.8% to 4.83 million tons by 1991.

Sulfite capacity will drop by 5.9% to 1.74 million tons, while dissolving/special alpha capacity will plummet by 9.0% to 252,000 tons.

Sulfate capacity is projected to rise, however, by 9.6% to 12.63 million tons in 1991. Much of this is due to a 36.1% increase in capacity to produce bleached hardwood sulfate and involves tonnages associated with fine paper expansions in Ontario and Saskatchewan, increased production at James Maclaren Industries Inc.'s Thurso, Que., mill, and the startup of Peace River Pulp Co.'s Peace River, Alta., mill. Bleached softwood sulfate capacity will increase 7.1% to 7.94 million tons in 1991.

Most kraft growth in hardwood. Growth in market pulp capacity will be most significant in mechanical grades, where the increase is projected to be 74.2% over the three-year survey period, to 1.298 million tons in 1991. Much of the 553,000-ton growth in market mechanical pulp capacity during 1988-91 is attributed to four new CTMP lines in 1988 and the startup of the Matane, Que., CTMP mill in 1990-91. ■

Canadian industry annual capacity growth, 1988-91 (000 metric tons).

Market pulp	**1988**	**1989**	**1990**	**1991**
Sulfite paper grades	323	341	340	340
Sulfate paper grades				
Total	7,067	7,088	7,252	7,570
Bleached softwood	5,665	5,664	5,716	5,784
Semibleached softwood	376	374	392	425
Bleached hardwood	913	935	1,034	1,251
Unbleached	113	115	110	110
Total chemical paper grades	7,390	7,429	7,592	7,910
Dissolving/special alpha	277	273	252	252
Mechanical	745	1,110	1,147	1,298
Total market pulp	**8,412**	**8,812**	**8,991**	**9,460**
Increase from previous year	**233 (2.8%)**	**400 (4.8%)**	**179 (2.0%)**	**469 (5.2%)**
Paper and board				
Newsprint	10,085	10,350	11,035	11,565
Uncoated groundwood	1,495	1,709	1,839	1,982
Coated groundwood	345	390	520	555
Uncoated free-sheet	1,046	1,322	1,517	1,544
Coated free-sheet	130	145	165	180
Kraft paper	560	531	523	539
Sanitary paper	561	592	656	682
Containerboard	2,039	2,099	2,253	2,275
Boxboard	767	798	912	974
Building and other	706	748	758	760
Total paper and board	**17,734**	**18,684**	**20,178**	**21,056**
Increase from previous year	**549 (3.1%)**	**950 (5.1%)**	**1,494 (8.0%)**	**878 (4.4%)**

Source: Canadian Pulp & Paper Assn.

U.S. SOUTH INCREASES HARDWOOD CHIP EXPORTS TO MEET FAR EAST DEMAND

Survey shows that Japan, Taiwan, and Rep. Korea are particularly interested in buying more hardwood fiber from southern producers

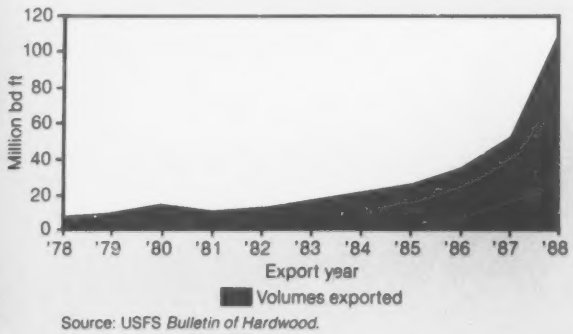
By GARY FAULKNER and L. LOUIS HYMAN

In recent months, exports of southern hardwood chips have increased dramatically. Responses to this sudden expansion have ranged from excitement to anxiety. This article examines what is occurring in hardwood chip exports and how these exports are perceived by trading partners in Europe and Asia.

Historically, hardwood log exports have been a steady product from Gulf Coast ports. Log exports to Asia were steady during the early eighties but began an exponential growth in 1985 (Figure 1). The bulk of the early shipments were grade logs sent to make veneer or lumber for the furniture industry. Much of the recent growth in these exports has been in lower-quality pulpwood. Factors cited for these trends include the value of the dollar, international wood availability, improved transportation, and government assistance programs.

Mr. Faulkner is with the Alabama Development Office and Mr. Hyman is with the Alabama Forestry Commission. This article is based on a presentation made at the American Pulpwood Assn. meeting in Montgomery, Ala., in May 1989.

FIGURE 1: **U.S. hardwood log exports to Asia were fairly steady until about 1985, when volume began increasing dramatically.**



Source: USFS *Bulletin of Hardwood. Market statistics: Fall 1988.*
1. Estimate.

CURRENT EXPORT STATUS. The southern hardwood chip export market seems to have evolved from international requests for available market pulp, to hardwood roundwood trial shipments, to the present market activity in exporting hardwood chips. In 1988, a pronounced increase was seen in shipments of southern hardwood chips from the southern U.S. In 1987, Gulf Coast ports shipped 66 tons (dry weight) of woodchips to Europe and Asia. In 1988, this increased to 173,125 tons, nearly all to Asia.

An analysis of customs data from the U.S. Dept. of Commerce Census Bureau and the Journal of Commerce P.I.E.R.S. report shows the destination of hardwood chip shipments. During 1988, 11 chip shipments originated from Gulf Coast ports. Eight of these came from the Mobile (Ala.) Customs District and three from the New Orleans (La.) District. The bulk of these shipments went to Japan, with Taiwan's purchases being less frequent but larger in tonnage. No shipments of chips from Gulf Coast ports to Europe were documented. An additional large amount of wood was shipped from Texas, but this shipment just went across the border to Mexico.

The 173,125 dry-weight tons (312,906 green-weight tons) of woodchip exports is roughly equivalent to 125,162 cords of wood being shipped overseas. The cord equivalent is based on a ratio of 5,000 lb of green weight per cord.

It should be noted that the Gulf Port shipments made up only 8.5% of the total U.S. chip shipments to Japan, but they were 57.7% of the total U.S. shipments to Taiwan. Some dominant factors that draw Pacific Rim pulp mills to southern hardwood chip suppliers include domestic paper demand, existing natural resource bases, and international competitiveness.

WORLD DEMAND. Chip demand is driven by pulp and paper demand. A comparison of apparent per capita paper consumption from selected countries shows little difference in paper use between the developed countries of the Far East and Western Europe. However, this region lacks the strong resource base of Western Europe and North America. For example, Japan has a commer-

cial forestland area of 11,300 km^2, Rep. Korea has 60,921 km^2, and Taiwan has only 18,720 km^2. In contrast, Alabama alone has a commercial forestland base of 87,650 km^2 (Figure 2).

It should also be noted that nearly all Asian paper production is used domestically. Japan exports only 3.6%, Taiwan 5.3%, and Rep. Korea 12.6% of their total paper production. In contrast, Fed. Rep. Germany exports 34.1% and Sweden 78% of their paper production.

Of the world's top ten pulp-producing countries, only two, Japan and China, are located in Asia. Japan is the one country among this group that does not have a timber resource base to supply its mills adequately. A closer look at pulp producers in Asia shows six major players (Figure 3). People's Rep. China, India, and Indonesia have a timber resource base. Japan, Taiwan, and Rep. Korea are major pulp producers who do not control an adequate timber base. These countries are dependent on imported roundwood and chips to fully supply their mills.

WORLD MARKET SURVEY. To analyze the demand for southern hardwood chips in Europe and Asia and to learn the viewpoint of potential trading partners, the Alabama Development Office (ADO) recently conducted a survey of major pulp and paper companies in Europe and Asia. This information was combined with an existing pool of data from recent international forest products investment prospects.

The survey was designed to determine if these companies import hardwood chips from the South, whether or not southern hardwood chips are acceptable in their processes, what chip characteristics they require, from which ports would they prefer to ship, and if they foresee any increase in their use of southern hardwood chips.

The survey showed that there is only a slight demand for southern hardwood chips in Europe. Some countries in Western Europe do import chips but mostly from each other. Fed. Rep. Germany exports chips. Some interest in southern hardwood chips is seen in Switzerland. But the bottom line is that there is no significant market interest in importing southern hardwood into Europe. On the other hand, the Far East is very interested in southern hardwood chips, according to the survey. The three main markets are Japan, Taiwan, and Rep. Korea.

FAR EAST MARKETS. Japan's pulp industry dominates the Far East. Japan has been importing woodchips and roundwood pulpwood since the 1960s. The Japanese pulp industry is in an expansion phase, especially in bleached hardwood kraft pulp. This expansion is being pushed by increases in domestic consumption as the Japanese economy continues to boom. Japanese companies are expanding because of these increases in demand, lower energy costs, lower raw material costs, and modernization programs to streamline their operations.

Japan relies heavily on imported hardwood logs and chips to supply its pulp mills. It buys chips from several sources (Figure 4). Australia is the dominant source, followed by the U.S. South and Chile. Besides chip purchases, many Japanese firms are interested in making direct investments in chip making and other manufacturing facilities. The Japanese also prefer long-term (five-year) contracts.

The economy in Taiwan is currently going through a transition. The majority of Taiwanese exports went to the U.S., and the decline of the U.S. dollar against the NT dollar has slowed exports and the economy. In addition, a lowering of import tariffs has increased paper and board imports. Taiwan has three pulp mills: two that produce bleached kraft pulp and one that makes dissolving pulp.

In response to the ADO survey, Taiwanese fiber importers reported great interest in southern hardwood chips, at least for the short term. The main reasons are price, quantity, and species quality. They have not selected any particular port for shipping; the decision is

FIGURE 2: **A major reason why Rep. Korea, Taiwan, and Japan import a great deal of hardwood is their lack of commercial forestland.**

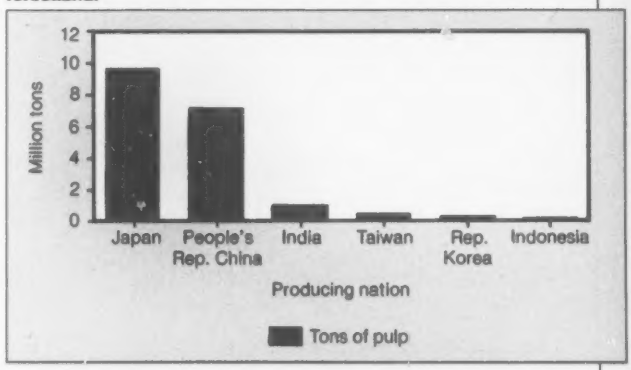
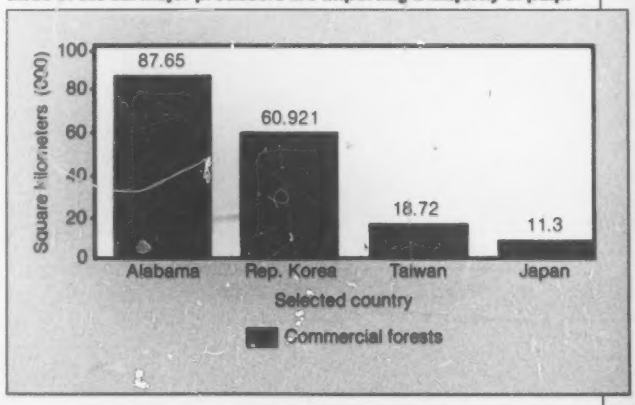


FIGURE 3: **According to 1987 figures of pulp production in Asia, three of the six major producers are importing a majority of pulp.**



based on the cost-effectiveness of each shipment. Currently, Taiwan imports wood from Indonesia, Malaysia, Thailand, Australia, South Africa, and the U.S. Although the southern U.S. has the longest shipping distance of these suppliers, Taiwanese companies expect to increase their purchase of southern hardwood chips, according to the survey.

Rep. Korea is another example of a country with a very strong, export-oriented economy and few natural resources. Rep. Korea has five pulp mills, of which only one produces bleached kraft pulp. The other four produce groundwood pulp.

One Korean firm projected hardwood chip needs to exceed 200,000 bone-dry tons on an annual basis by 1991. Another firm is interested in moving a pulp mill to the U.S. or Canada in the near future. The mills are interested primarily in oak and are attracted by the South's strong oak reserves. The Koreans have shipped chips from Mobile and are very satisfied, indicating a large increase in the use of southern hardwood chips in the near future. They currently import hardwoods from the U.S., Australia, and Indonesia. Korean producers look to the southern U.S. as a long-term supply base and are willing to set up their own southern U.S. operations to meet their needs.

FACTORS INFLUENCING EXPORTS. An evaluation of these data shows that four main factors influence southern hardwood chip exports. The first is that the market for southern hardwoods has been remarkably stable during the past ten-plus years (Figure 5). This is true on both the stumpage level and the delivered-to-the-yard cost level. This shows the relative abundance of hardwoods in the South and the historically low demand for hardwood pulpwood. The price jumped in 1987 because of increased demand but has since leveled off due to an increased supply and a weaker dollar.

The mid-South has an excellent transportation infra-

FIGURE 4: **Japan, as the major pulp producer in Asia and the major woodfiber importer, gets most of its hardwood chips from Australia, followed by the U.S. South.**

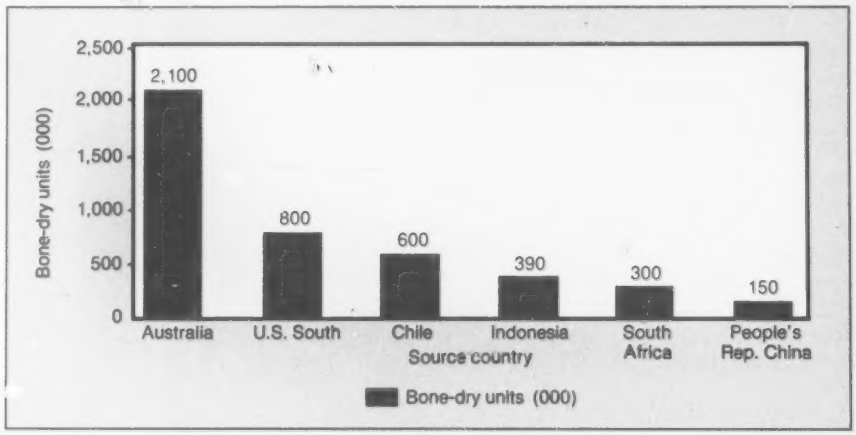
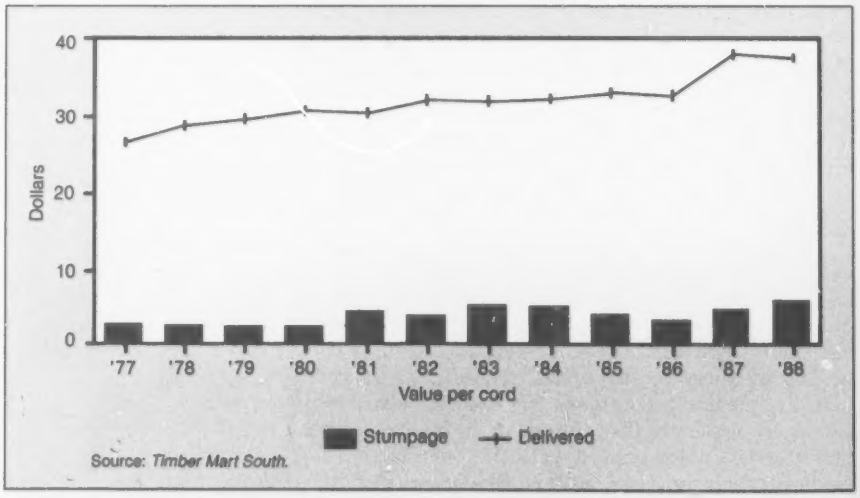


FIGURE 5: **The market for southern hardwood has been stable during the past ten years, represented by average hardwood pulpwood prices in Alabama from 1977-88.**



Southern woodchip supply

The USDA Forest Service estimates that during the next 20 years, the U.S. South will continue to be a major world supplier of softwood and hardwood logs. However, the region's hardwood reserve will decrease gradually because many of the hardwood forests (after harvest) will be replaced by softwood plantations. For the next ten years, however, the South will still have large hardwood reserves, with annual harvesting far behind annual growth. The following figures show the Forest Service's most recent estimates (units in million m^3):

Southern region	1988	2000	2020
Annual growth	125	120	110
Annual harvest	81	98	135
Difference	44	22	−25

According to these figures, some 22 million m^3 of hardwood logs will be available for additional harvesting at the turn of the century. Figuring that one bone-dry unit (bdu) of woodchip volume is about 160 ft^3, and based on the conversion of 72 m^3 of solid wood to 100 m^3 of woodchips, about 120 ft^3 (or 3 m^3) of solid wood is needed to produce one bdu of woodchips. This means that by the year 2000, about 7 million bdu of woodchips will be available for additional harvest, which is equivalent to approximately 16 million tons of woodchips. This is above the estimated 3-million-tpy demand from the Far East market.

The increasing harvest of southern hardwood logs for export may reduce the surplus of the forest reserve at a faster rate than the Forest Service estimates. However, the 3 million tons of export demand represent only about 3% of the 2000 growth volume. This impact should be manageable. Therefore, it is safe to say that for the next ten years, the hardwood log supply in the South should be abundant enough to cover both domestic and export markets.

CURRENT SITUATION. At the peak of southern pine export to Scandinavian countries in 1981, volumes reached about 740,000 bone-dry tons. Major export ports were Savannah, Ga.; Mobile, Ala.; and Lake Charles, La. Since the Finnish embargo (due to the threat of nematode infection) in 1985, this export activity has stopped, idling many of the chip mills and port loading facilities. However, last year's woodchip exports to Taiwan and Japan rejuvenated many of those facilities, especially the ports of Savannah and Lake Charles and the chip mills surrounding them.

The current exporting of woodchips from this region began last spring. Wintech Co. and Garick Corp. at Savannah's chip terminal began exporting chips to Taiwan. And Weyerhaeuser Paper Co. began delivering chips to Japan from the Port of Mobile, followed by Scott Paper Co. at Mobile and Louisiana-Pacific Corp. at Lake Charles. With the activation of old chip mills and port terminals in addition to a few new facilities throughout the South, current woodchip export capacity is estimated at more than 3 million tpy. The following provides a rough estimate on each company, its exporting port, and capacity:

- Weyerhaeuser so far is the leading exporter of woodchips in the West and South. Currently, it has one shipment per month scheduled from Mobile. Another chip terminal is being planned for Moorhead City, N.C. The combined capacity of these facilities could reach 600,000 to 800,000 tpy.
- Scott at Mobile is the most promising woodchip exporter in the South. It owns more than a half-million acres of forestland and has a chip mill that is dedicated to export business. Scott is also constructing a chip terminal at Mobile and has a large fleet of barges and towboats. Its production cost and capacity will be the most competitive in the region. Currently, its capacity is about 400,000 tpy.
- In Savannah, the chip terminal exported more than 1 million tpy in the previous pine chip business. In its surrounding area, no shortage of chip mill capacity exists. Currently, three companies are using this terminal: Germain Co., Wintech, and Fexcorp Co. The combined export capacity of these companies is about 1.0 to 1.2 million tpy.
- Louisiana-Pacific at Lake Charles owns a chip terminal similar to Savannah's facility. Its primary chip supply is from East Texas and Louisiana. L-P probably can handle 350,000 to 400,000 tpy.
- At Reserve, La., is a general bulk cargo handling facility on the banks of the Mississippi River. Chips are handled through this facility by a group of sawmill operators in Mississippi. The facility's annual capacity is about 400,000 tpy.
- Many other companies and ports in the South are interested in the woodchip export business. Alabama State Dock is planning a new chip terminal at Mobile, and Fulghum Co.'s Meridian, Miss., chip mill is planning to use this facility to export chips to Japan. Another bulk terminal in Brunswick, Ga., is being used by Stone Forest Industries Ltd. to sell woodchips to Mitsubishi Co. These facilities have a combined total capacity of about a half-million tpy.

These operations represent a total of about 3.3 million to 3.8 million tons of annual capacity for export. This capacity level would be enough to cover any current and future demand. Actually, the current export woodchip supply capacity is well above the demand from the Far East. Many suppliers are competing for the same buyers, such as Marubeni, Mitsubishi, C. Itoh, Sumitomo, Sanyo-Kokusaku Pulp, and Taio Pulp. Until deals can be settled in the latter half of this year, the oversupply situation will keep the market soft. No shortage of chip supply yet exists.

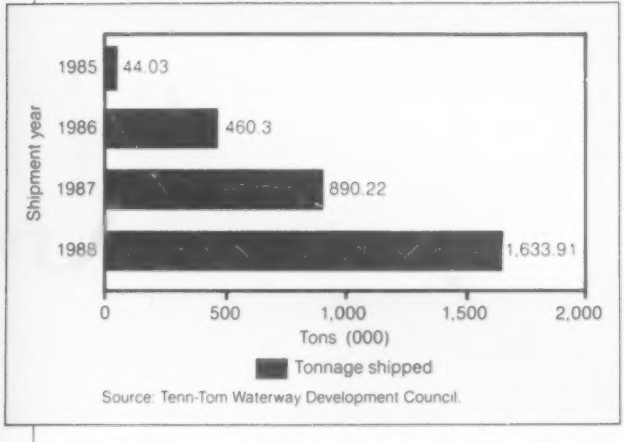
—By Paul Kao, GPS Co., Houston, Texas. Extracted from a presentation at the American Pulpwood Assn. meeting at Montgomery, Ala., in May 1989.

structure. The opening of the Tennessee-Tombigbee Waterway has greatly increased companies' ability to move wood supplies greater distances at lower costs. Wood has become one of the dominant items of commerce utilizing the Waterway (Figure 6). The Tenn-Tom enables companies to move efficiently high-volume, low-value products, such as roundwood or chips, a great distance. This has significantly increased the amount of wood that can be brought to the Port of Mobile at a price exporters are willing to pay.

Another major factor influencing hardwood chip exports is the exchange rate of the dollar. The recent decline in the value of the dollar (since 1985), especially against the yen (Figure 7), has increased the buying power of foreign pulp mills. A yen now buys more wood than it did previously.

The final factor is competition from other growers that are exporting hardwood chips to Asia. The main competition is eucalyptus from Australia and South America, especially Chile. Changes in the availability of logs and chips from these sources have had and will continue to have an impact on the demand for southern hardwood chips.

FIGURE 6: **One of the indicators of the good transportation in the U.S. South is the growth in the amount of wood shipped on the Tennessee-Tombigbee Waterway.**

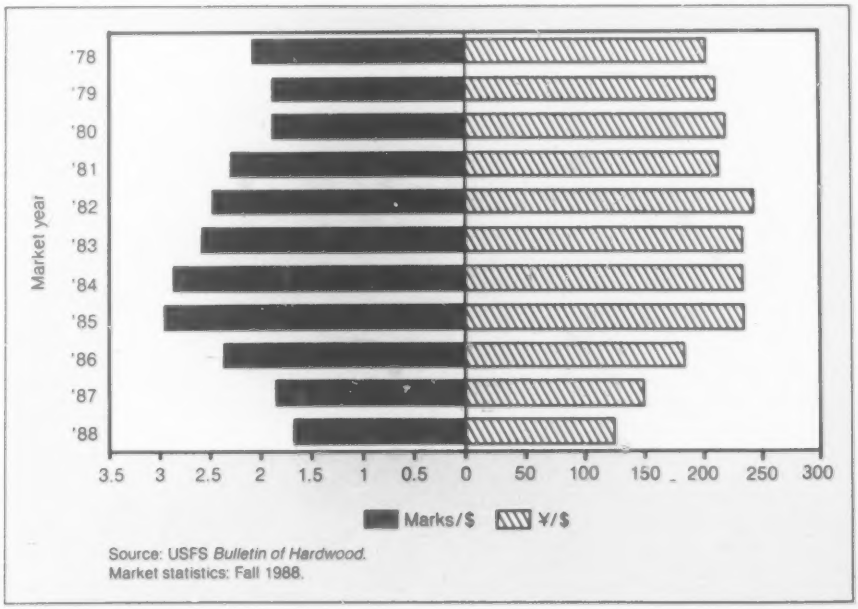


Source: Tenn-Tom Waterway Development Council.

CONCLUSIONS. The viewpoint of southern U.S. trading partners in Europe and Asia concerning southern hardwood chip exports can be summarized from the ADO survey as follows:

- Europe presently is not a market for southern hardwood chips.
- The Pacific Rim is a promising market for southern hardwood chips, at least for the near term.
- This demand from the Pacific Rim is being driven by domestic consumption of paper as well as changes in roundwood and chip supply availability in other parts of the world.
- The southern U.S. is a prime source for hardwood chip exports; the stable local market, excellent ports, and good river transportation systems result in relatively lower alongside-ship prices.
- Pacific Rim countries are aware of this great resource and are trying to increase their use of it through either export purchases or direct investments in processing facilities. ■

FIGURE 7: **The decline in the value of the U.S. dollar against the yen has increased the buying power of foreign pulp mills.**



Source: USFS *Bulletin of Hardwood Market statistics: Fall 1988.*

NEWSPRINT PRODUCERS CONCERNED AS STATES EYE TAXES, RECYCLING GOALS

Legislators consider newsprint market as largest, most probable end user for newspaper that is generated by recycling programs

By DEBRA A. GARCIA, Senior News Editor

Newsprint producers are becoming concerned about the trend emerging among states to provide incentives for using recycled paper. Newsprint has been among the first targets for legislators looking for ways to ease the garbage crisis because it is the single largest end-use market for the single greatest component of the solid waste stream: old newspaper. Each year, the U.S. generates more than 160 million tons of solid waste. Of this amount, about 8.5 million tons are made up of old newspaper.

Laws that tax virgin-fiber newsprint and set mandatory recycling levels are seen by states as a way to reduce the growing pile of old newspaper that *they* cultivated through mandatory recycling bills. Regulating recycling at the curbside level wasn't the answer; it only pushed the problem down the solid-waste stream, from the landfill to the recycling center. And if states proceed with proposed legislation, paper mills will have to deal with the problem.

That is, if lawmakers don't first recognize that market imbalances cannot be corrected with legislation alone. "The market should be market driven, not supply driven," noted Rod Edwards, vice president-paperboard, American Paper Institute. "Recycling is not a magic bullet that's going to save us," agreed Steve Levetan of the Institute of Scrap Recycling Industries. "It took us years to get into this mess, and it's going to take us years to get out of it."

Municipalities initially believed that recycling would be cost-effective, and some even thought it could turn profitable. But in a market downturn, such as the one the wastepaper industry is beginning to feel, municipal recycling programs have tended to lose money. By creating markets for recycled products, states believe they can eliminate these glitches in the demand for recyclable materials.

EXCELLENT TRACK RECORD. Unfortunately for the newsprint industry, the success of newsprint in recycling has made it an easy target for legislators. It's among the easiest elements in the garbage heap to recycle and

TABLE 1: **North American recycled newsprint producers.**

Company and location	Capacity (metric tpy)	Recycled content (%)
United States		
FSC Paper Co.		
Alsip, Ill.	107,000	100
Garden State Paper Co.		
Garfield, N.J.	197,000	100
Golden State Newsprint Co. Inc.		
Pomona, Calif.	121,000	100
Manistique Papers Inc.		
Manistique, Mich.	53,000	100
Smurfit Newsprint Corp.		
Newberg, Ore.	350,000	50
Oregon City, Ore.	211,000	50
Southeast Paper Manufacturing Co.		
Dublin, Ga.	395,000[1]	100
Stone Container Corp.		
Snowflake, Ariz.	258,000	50
Canada		
Atlantic Packaging Corp.		
Whitby, Ont.	136,000[2]	100
Quebec & Ontaric Paper Co.		
Thorold, Ont.	305,000	50

1. Includes 190,000-tpy-newsprint machine starting up September 1989.
2. Greenfield mill starting up mid-1990.
Sources: Newsprint Information Committee, *Pulp & Paper Week* estimates.

already has a huge recycling infrastructure. Last year, 4.7 million short tons of old newspaper were reused in some form in the U.S., representing a recycling rate of 35% of all newspaper discarded—one of the highest of any commodity.

The problem is that demand from end users is not increasing as rapidly as the recovery rate. Over the five-year period from 1983 to 1988, newspaper recycling has grown twice as fast as newsprint consumption. Because of this, states want to make sure that recycled newsprint at least has a bigger share in whatever gains in consumption are achieved.

According to James Hutchison, vice president-paper, API, about 1.5 of the 5.5 million tons of 1988 U.S. newsprint capacity contained at least some portion of recycled newspaper (Table 1). That's more than a quarter of the total but is still far short of what will be needed if enough states move forward with market-enhancement legislation.

Florida was the first to enact some form of tax on virgin newsprint. The bill, which took effect on Jan. 1, requires all newspaper publishers in the state to pay a 10¢/short-ton tax on virgin-fiber newsprint and to recycle half of all discarded newspaper by Oct. 1, 1992. Although the initial intention was to control the state's garbage problem, other states are realizing the potential such bills have to enhance markets for waste-based newsprint and are considering their own versions of the Florida bill.

INDUSTRY TAKES A CLOSER LOOK. At the same time, a number of companies and associations have begun in recent months to take a closer look at the implications for paper and related industries—especially newsprint and newspaper. The American Newspaper Publishers Assn. (ANPA) has formed a task force on newsprint disposal headed by Frank A. Bennack Jr., president, Hearst Corp.

At this time, no collaborative effort among newsprint mills to tackle the problems this legislation could pose has emerged, however. Instead, individual companies have decided to conduct studies at their own mill locations on the "availability, cost, consumer acceptability, and public cooperation associated with the source, separation, collection, and deinking of old newspaper," API noted.

In the U.S., Bowater is one of the major suppliers studying possible ways to incorporate more recycled newspaper into its production. Its interest "stems not from any shortage of its regular sources of fiber but from its awareness of the growing pressure on municipalities to reduce the volume of waste material requiring disposal in landfills," the company said.

In Canada, Abitibi-Price Inc. has begun studying ways to either incorporate more wastepaper at its existing facilities or build new mills. Donohue Inc., however, decided last year against installing a deinking facility at its Clermont, Que., mill, choosing instead to expand thermomechanical pulping capacity.

ARE STATES' GOALS REALISTIC? Levetan noted that Florida's 50% recycling goal is attainable if new markets are developed. But the 10¢/short-ton tax on virgin newsprint consumed—which publishers can offset with a 10¢/short-ton credit on recycled newsprint used—is not likely to be enough of an incentive to significantly expand markets.

In Connecticut, a bill was proposed that would impose a tax of $20/short ton on nonrecycled newsprint consumed, effective July 1990. This would increase to a tax of $40/short ton in July 1991 and $60/short ton in July 1992. The proposal was later dropped from the legislation in favor of voluntary recycling goals.

The Connecticut bill stipulates that recycled newsprint must contain at least 40% old newspaper, unlike Florida's legislation, which does not designate any standard for recycled content. Most states considering this type of legislation, including California, are looking at a level of 40% because it is the standard in the model federal bill, the Resource Conservation & Recovery Act.

California is currently considering a bill to impose quotas on the amount of total newsprint consumption that would have to be recycled-fiber based. The quotas would escalate from 25% of total consumption effective Jan. 1, 1991, to 50% effective Jan. 1, 2000. Failure to comply would result in fines. Wisconsin lawmakers are looking at a bill that would require newspapers to use recycled newsprint for at least 10% of their total requirements, moving up 10% each year to 50% by 1994.

Other states considering some form of market-enhancement bill involving newsprint include New York, Connecticut, Nebraska, and Pennsylvania, according to Tonda Rush, director-newspaper planning and projects, ANPA.

These states and others are also proposing or have already passed some form of solid-waste legislation that could effect the newsprint industry. Last year, Pennsylvania passed a law that will require recycling of newspapers and other materials by all municipalities of 10,000 or more population by September 1990. Communities with between 5,000 and 10,000 people must start their programs a year later. New Jersey was the first state to mandate curbside recycling several years ago.

INDUSTRY OPPOSED TO NEWSPRINT TAXES. Garden State Paper Co., the largest recycled newsprint producer in the U.S., expects that newsprint taxes will become more widespread but hopes that lawmakers take into account the potentially disastrous consequences of poorly considered laws to the marketplace.

GSP and Southeast Paper Manufacturing Co. are opposed to the proposed newsprint and recycling bills that do not consider the industry's capacity to meet demand. "Laws that address the solid-waste crisis are fine, but

Bales of old newspaper are warehoused at Southeast Paper Manufacturing Co.'s Dublin, Ga. mill, where a second newsprint machine is scheduled to come online this September (photo courtesy of BE&K Inc.).

they have to be realistic enough to allow publishers and paper manufacturers to conform to them," said James L. Burke, executive vice president and general manager, GSP.

Not only will the paper industry need a phenomenal capital investment to engineer and build secondary fiber capacity, but it will take at least three years for the first phase of this massive industry makeover to become operational, as industry sources have pointed out.

A good sign, though, has been lawmakers' increasing openness to the industry's side of the problem. "They're at the point of scratching their heads and saying, 'Something is not working here,' and trying to get the paper industry to tell them more about what's necessary to make it work," Rush said. For instance, Pennsylvania has formed a state task force headed by Lt. Gov. Mark S. Singel and is talking to newspapers about using more recycled newsprint.

Perhaps this will lead to a better understanding of what will really enhance the market. "The thing they're missing is that rather than make demands on newspaper publishers, they need to: one, convince newspaper publishers there really is a solid-waste crisis; two, convince them that the incorporation of secondary fiber can help; three, get newspaper publishers to encourage the use of more newsprint made out of secondary fiber," said Burke.

WHAT ABOUT LONG-TERM DEMAND? The trend to use more recycled newsprint is going to increase in the short term, according to Rush. Whether it will grow long-term, however, "will depend on what feasible disposal options emerge from the states." One problem is that newsprint fibers wear out after repeated recycling. Thus, states will have to provide other disposal options.

Newsprint producers and consumers are beginning to see that they have a mutual interest in showing legislators that newsprint tax/recycling laws could be disastrous. Together they are trying to work out a better solution to the waste problem.

In Long Island, N.Y., where the garbage buildup is reaching crisis proportions, *Newsday* publisher Robert Johnson told a group of paper industry executives at API's newsprint division meeting in March that his newspaper was committed to buying recycled newsprint. He is convinced other publishers will do the same.

Part of the incentive in the New York metropolitan area has been soaring newsprint disposal costs. For example, in nearby Newark, N.J., the cost of garbage disposal has risen from about half a million dollars in 1979 to $24 million last year. Most landfills in the region have been closed in recent years, and garbage must be transported hundreds of miles away for disposal.

In Illinois, local officials want FSC Paper Co.'s Alsip, Ill., recycled newsprint mill to use more old newspaper. The *Star-Tribune* in Minneapolis, Minn., though, has agreed only to gradually increase its use of recycled newsprint because of long-term newsprint supply agreements and technical problems linked with using recycled newsprint. Also, the newspaper is opposed to creating a market without sufficient local capacity to fill it.

Recognizing that the solution must start with either the suppliers or the consumers, Rush suggests that newspapers begin by expressing an interest in using more recycled newsprint. Even manufacturers already making recycled newsprint are hesitant to invest heavily in projected future demand that may be subject to the whims of legislators.

PROBLEMS WITH LEGISLATING MARKETS. Trying to regulate the wastepaper industry with mandatory curbside collection programs has already caused a glut of old newspaper in such metropolitan markets as New York and Toronto, Ont. In Ontario, the provincial government recently paid a deinking and recycling paper plant in Quebec to take excess old newspaper.

Wastepaper recycling has grown in the Toronto area as a result of the "blue-box" recycling program instituted several years ago. More wastepaper is generated than can be used locally, resulting in most of it being exported to the U.S., Europe, and the Pacific Rim at reduced profit levels for recyclers. The only major consumer of old newspaper in the Toronto region is the *Toronto Sun*.

State interference in the paperstock business has also created fiber quality problems for some mills, such as GSP's Garfield, N.J., mill and Southeast's, Dublin, Ga., mill. Educating municipalities about separating newspaper from other paper and contaminants will be one challenge to be met if more secondary fiber is to be suitable for recycling, noted Rush. "Good-quality fiber will always find a market," said Burke.

QUALITY FIBER IS THE KEY TO SUCCESS. GSP has seen the quality of its paperstock degenerate in direct proportion to the number of municipalities getting into the recycling business. Households often consider everything wrapped in the morning paper to be newsprint. As a result, other paper grades are mixed in, as well as contaminants. Thus, fiber quality must be downgraded to mixed paper and the price lowered. "We're having to reeducate the municipalities in what they have to do if they are to find a market for their products. I think it will improve over time," said Burke.

Another viable solution is working with the existing paperstock dealers' network "that is out there and knows how to process and pack the paper for shipment to a deinking mill," noted Levetan. "When you get to the mill, the paper machine doesn't know where it came from. You cannot sacrifice quality in the name of a municipal recycling program."

But even as publishers are being drawn more into recycling, their quality standards for newsprint are moving them in another direction. Publications such as *USA Today*, which set the standards for four-color printing, reportedly won't run recycled newsprint. Yet, Southeast claims its paper already meets *USA Today* standards, GSP's Garfield mill expects to match those specifications with various upgrades in machinery, and a number of other producers say they meet or exceed average standards of the pressroom.

One paper industry executive noted that the mills would be forced to meet top quality standards with recycled newsprint. Still, it will take time not only for the technology to advance but also for the product to gain widespread acceptance.

COMPLIANCE MAY NOT BE ATTAINABLE. Even so, many mills in North America are not likely to add deinking plants. Aside from the investment and time required to incorporate a secondary fiber system, a mill must be close to a good source of wastepaper. In Canada, many mills are isolated. According to Gordon Minnes, executive vice president, Canadian Pulp & Paper Assn., using secondary fiber is not feasible for these mills, which are surrounded by abundant pulpwood supplies. For the present time, the association is watching developments in the U.S., he indicated.

Canada, which supplies about 57% of total U.S. newsprint demand, currently has only one mill making recycled newsprint—Quebec & Ontario Paper's Thorold, Ont., mill. A second is being built by Atlantic Packaging Products Ltd. in Whitby, Ont., and is scheduled to start up next July with a capacity of 136,000 metric tpy of 100%-recycled-content newsprint. The new machine is expected to use approximately 163,000 metric tpy of old newspaper and coated magazine sections. It should absorb all excess old newspaper generated by Ontario's blue-box program and then some.

Statistics show that Canada trails far behind the U.S. in recycling paper and paperboard. Only 5% of Canada's newsprint capacity is currently waste based, compared with 25% in the U.S. Yet, only 60,000 tpy of the Thorold mill's output is sold in Canada.

Minnes noted that Canada's vast forests and smaller population make the need to conserve fiber slower to be recognized. Canada reportedly recycles just 2% of its 35 to 40 million tons of garbage each year. But federal and provincial governments recently agreed to cut Canada's garbage in half by the year 2000 and expect to have a plan for attaining that goal by mid-1990.

At the same time, Toronto publishers are talking with suppliers and the provincial government about ways to put recycled newsprint on the presses within two years. The total consumption of Toronto newspapers would be an estimated 250,000 tpy.

Regardless of the intent of all involved in this issue of supply and demand for recycled newsprint, Minnes noted, "The handling capacity and infrastructure are simply not in place to use it. It will take time." In the U.S., the recycling industries are more entrenched than in Canada. Source-separation programs were initiated in some metropolitan areas years ago, but even the U.S. paper industry cannot fulfill the dreams of lawmakers.

Atlantic Packaging and Southeast are the only two of the 11 newsprint machines coming online in North America during 1989-91 that are recycled-fiber based (Southeast's new 190,000-metric-tpy newsprint machine is expected to start up this September). This amounts to less than 15% of all the new newsprint capacity (plus incremental increases) coming onstream before 1992—hardly enough to meet the demand legislators have proposed to mandate. ■